

1/5

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GmmoriAe ..... CTACGG GTAACATCTT TATTAGTTAT
GmmoriAc .....GCT TTGTCTACGG GTAACATCTT TATTAGTTAT

GmmoriAe CGTAAATAA CAGATTGTAG AAATGAAGTT TACAGGAATA TTCTTCATAA
GmmoriAc CGTAAATAA CAGATTGTAG AAATGAATT TACAGGAATA TTCTTCATGA

GmmoriAe TTATGGCGAT CATTGCCCTC TTTATAGGGT CAAATGAAGC GGCGCCTAAA
GmmoriAc TTATGGCGAT CATTGCCCTC TTTATAGGGT CAAATGAAGC GGCGCCTAAA

GmmoriAe GTCAATGTTA ATGCCATTAA GAAGGGAGGA AAGGCCATAG GAAAAGGATT
GmmoriAc GTCAATGTTA ATGCCATTAA GAAGGGAGGA AAGGCCATAG GAAAAGGATT

GmmoriAe TAAAGTAATC AGTGC GGCGA GTACAGCGCA TGACGTCTAT GAACACATTA
GmmoriAc TAAAGTAATC AGTGC GGCGA GTACAGCGCA TGACGTCTAT GAACACATTA

GmmoriAe AAAACAGAAG GCACTAATAA AACCAAAAAT AATTATTTAT TTTATAAGGT
GmmoriAc AAAACAGAAG GCACTAATAG AACCAAAAAT AATCATTAT TTTATAAGGT

GmmoriAe AATTTTAAGA CATATAATGT ATGTTGCAAA TTATTAAGTG AAATAAAATA
GmmoriAc AATTTTAAGA CATATAATGA ATGTTGCAAA TTATTAAGTG GAATAAAATA

GmmoriAe TAAAATATTT TTTGTT
GmmoriAc TAAAATATTT TTTGTT

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Figure 1

	1		50
GmmoriAe	MKFTGIFFII	MAIIALFIGS	NEAAPKVVVN AIKKGGAIG KGFKVISAAS
GmmoriAc	MNFTGIFFMI	MAIIALFIGS	NEAAPKVVVN AIKKGGAIG KGFKVISAAS
	51	64	
GmmoriAe	TAHDVYEHK	NRRH*	
GmmoriAc	TAHDVYEHK	NRRH*	

Figure 2

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1  GGTAACATCTTTATTAGTTATCGTAAAATAACAGATTGTAGAAATGAAGTTTACAGGAAT  60
                                     MetLysPheThrGlyIl

61  ATTCTTCATAATTATGGCGATCATTGCCCTCTTTATAGGGTCAAATGAAGCGGCGCCTAA  120
    ePhePheIleIleMetAlaIleIleAlaLeuPheIleGlySerAsnGluAlaAlaProLy

121  AGTCAATGTTAATGCCATTAAGAAGGGAGGAAAGGCCATAGGAAAAGGATTAAAGTAAT  180
    sValAsnValAsnAlaIleLysLysGlyGlyLysAlaIleGlyLysGlyPheLysValIl
                                     ↑      ↑↑

181  CAGTGCGGCGAGTACAGCGCATGACGTCTATGAACACATTAAAAACAGAAGGCACTAATA  240
    eSerAlaAlaSerThrAlaHisAspValTyrGluHisIleLysAsnArgArgHis***

241  AAACCAAAAATAATTATTTATTTTATAAGGTAATTTTAAGACATATAATGTATGTTGCAA  300

301  ATTATTAAGTGAAATAAAATATAAAATATTTTTTGT

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Figure 3

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1  GTTATTTTTTTAAAGATCAAAGCGTAATTAATTCATTGTGCTGTGTCTGAAAGGAACAAA  60
                                     M

61  TGAGATTGTCCATAATATTGGTCGTTGTGATGATGGTGATGGCTATGTTTGTGAGCAGTG  120
    etArgLeuSerIleIleLeuValValValMetMetValMetAlaMetPheValSerSerG

121  GAGATGCGGCGCCTGGAAAAATTCCTGTGAAAGCGATTAAAAAGGAGGGCAAATTATTG  180
    lyAspAlaAlaProGlyLysIleProValLysAlaIleLysLysGlyGlyGlnIleIleG
                                     ↑      ↑↑

181  GTAAAGCTCTGCGTGGAATCAATATAGCGAGTACTGCACATGACATAATTAGCCAGTTCA  240
    lyLysAlaLeuArgGlyIleAsnIleAlaSerThrAlaHisAspIleIleSerGlnPheL
                                     ↑      ↑↑

241  AACCGAAAAAGAAGAAAAACCATTGAGTATTTAATAAAAAATCGTTCAATAATATATTTA  300
    ysProLysLysLysLysAsnHis***

301  ATAATAATAATAAATTTTACTTATATTACTATAATATAATTAATATTTTAAATTGTGCCA  360

361  TTTTAGTTTTTATAAATTATATTAAGTATTAATTTTATAATTAATAAAAAAGCTTAAATAT

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Figure 4

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1 GTAACAGTACCACCGTGACAGTCGCAGTAGTTAGTCTTCAATCTTAGTGAAAACCTTCGC

61 TTCTCTTTATCAACCATGAAGCTGACCGGTCTATTTTTCATGATCATGGCGATGCTCGCC
MetLysLeuThrGlyLeuPhePheMetIleMetAlaMetLeuAla
Val

121 CTGTTTGTTGGCGCTGGTCAAGCCGACCCTAAGGTGCCCATTTGGCGCCATCAAGAAGGGT
LeuPheValGlyAlaGlyGlnAlaAspProLysValProIleGlyAlaIleLysLysGly

181 GGCAAAATTATTAAAAAAGGTCTTGGTGTAATTGGTGCCGCTGGTACAGCGCATGAAGTA
GlyLysIleIleLysLysGlyLeuGlyValIleGlyAlaAlaGlyThrAlaHisGluVal

241 TATAGCCACGTCAAGAACAGGCATTAGATTCTTGAAGAATATATAGTATATAATTATGAA
TyrSerHisValLysAsnArgHis***

301 GTACTATCCTTTTGTATATGTGACTAAGTGCATAATGTAAAGTCAAATGAAATATATATT

361 ATTTATCCTCGTGCC

Figure 5

1 ACTTCATTGTGTACAGTTGCAGGACTTAATACTTAGTGAAC TACTTACTCCTCGTTACCA

61 ACCATGAAGCTGACCGGTCTATTTCTCATGATCATGGCGGTGCTCGCGCTGTTTGTGTC
MetLysLeuThrGlyLeuPheLeuMetIleMetAlaValLeuAlaLeuPheValGly

121 GCTGGTCAAGCCGACCTAAGGTGCCCATTTGGCGCTATCAAGAAGGGCGGCAAAATTATT
AlaGlyGlnAlaAspProLysValProIleGlyAlaIleLysLysGlyGlyLysIleIle

181 AAAAAGGGTCTAGGTGTGCTTGGCGCCGCGGGCACAGCGCACGAAGTGTACAACCACGTT
LysLysGlyLeuGlyValLeuGlyAlaAlaGlyThrAlaHisGluValTyrAsnHisVal

241 AGGAACAGGCAGTAACGTCATGCGTGATTGTTGTACATACAGTACTTACAATACGATTTG
ArgAsnArgGln***

301 TCTTGGCTGTGATATATCTTTAGATAAATTAATTTATAATACCACATACTTATTAGTAAA

361 A TACTCAAATATATTGATTATAGATACATTAATAAAATATTAATTATTACAATATTTTGT

421 TTTATGTACAATGCGAATAGATTCTACCCTCTGCCTCGTGCC

Figure 6

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GmmoriC1 GTAACAGTACCACCGTGACAGTCGCAGTAGTTAGTCTTCAATCTTAGTGAAAACCTTCGC 60
 GmmoriC2ACTTCATTGTGTACAGTTGCAGGACTTAATA.....CTTAGTGAACTACTTAC 48

GmmoriC1 TTCTCTTTATCAACCATGAAGCTGACCGGTCTATTTTTCATGATCATGGCGATGCTCGCC 120
 GmmoriC2 TCCTCGTTACCAACCATGAAGCTGACCGGTCTATTTCTCATGATCATGGCGGTGCTCGCG 108

GmmoriC1 CTGTTTGTGGCGCTGGTCAAGCCGACCCTAAGGTGCCCATTGGCGCCATCAAGAAGGGT 180
 GmmoriC2 CTGTTTGTGGCGCTGGTCAAGCCGACCCTAAGGTGCCCATTGGCGCTATCAAGAAGGGC 168

GmmoriC1 GGCAAAATTATTA AAAAAGGTCTTGGTGAATTGGTGCCGCTGGTACAGCGCATGAAGTA 240
 GmmoriC2 GGCAAAATTATTA AAAAAGGTCTAGGTGTCTTGGCGCCGCGGGCACAGCGCACGAAGTG 228

GmmoriC1 TATAGCCACGTCAAGAACAGGCATTAGATTCTTGAAGAATATATAGTATATA.ATTA..T 297
 GmmoriC2 TACAACCACGTTAGGAACAGGCAGTAACGTCATGCGTGAT.TGTTGTACATACAGTACTT 287

GmmoriC1 GAAGTACTATCC.TTTTGTATATGTGAC.TAAGTGCATAATGTAAAGTCAAATGAAATAT 355
 GmmoriC2 ACAATACGATTTGTCTTGGCTGTGATATATCTTTAGATAAATTAATTTATAATACCACAT 347

GmmoriC1 A..TATTATTTA..TCCTCGTGCC 375
 GmmoriC2 ACTTATTAGTAAATACTCAAATA..... 462

Figure 7

GmmoriC1 MKLTGLFFMIMAMLALFVGAGQADPKVPIGAIKKGGKIIKKGLGVIGAAG
 GmmoriC2 MKLTGLFLMIMAVLALFVGAGQADPKVPIGAIKKGGKIIKKGLGVLGAAG

GmmoriC1 TAHEVYSHVKNRH
 GmmoriC2 TAHEVYNHVRNRQ

Figure 8

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Bmmor	MNILKFFFVFIVAMSLVSCS-TAAPAKIPIKAIKTVGKAVGKGLRAINIASTANDVFNFLKPKKRRKH-
Hpmor	-----AMSLVSCS-TAAPAKIPIKAIKTVGKAVGKGLRAINIASTANDVFNFLKPKKRRKH-
Hvvir	-----GKIPIGAIKKAGKAIGKGLRAVNIASTAHDVYTFKPKKR-H-
Slmor	MKLTQVFVILIVVVALLVPS-EAAPGKIPVKAIKKAGAAIGKGLRAINIASTAHDVYSFFKPKHKKKH
Semor	MKLTQVFVIVIVVVALLVPS-EAAPGKIPVKAIKKAGTAIGKGLRAINIASTAHDVYSFFKPKHKKKH
Msmor	MKLTSLFIFVIVALSLFSSTDAAPGKIPVKAIKQAGKVIKGLRAINIAAGTTTHDVVSFFRPKPKKKH-
CiP1647	-----RKIPVEAIKKG---ASRAWRALDLASTAYDIASIFN--RKRE-
CiP1648	-----GKIPVEALKKGAKVAGRAWRALDLASTAYDIAHLFD--RKRN-
CiP1646	-----GKIPINAIKKGAKAVGHGLRALNIASTAHDIASAFH--RKRKH
GmmoriB	MRLSIILVVMMVMAMFVSSGDAAPGKIPVKAIKKGGQIIGKALRGINIASTAHDIISQFKPKKKKNH
GmmoriC1	MKLTGLFFMIMAMLALFVGAGQADP-KVPIGAIKKGGKI IKKGLGVIGAAGTAHEVYSHVKNRH----
GmmoriC2	MKLTGLFLMIMAVLALFVGAGQADP-KVPIGAIKKGGKI IKKGLGVIGAAGTAHEVYNHVRNRQ----
BmmorX	MYFLKYFIVVLVALSLMICSGQADP-KIPVSLKKGKVIAGFKVLTAAGTAHEVYSHVRNRGNQG-
GmmoriA	MKFTGIFFIIMAIILFISNEAAP-KVNVNAIKKGGKAIGKGFKVISAASTAHDVYEHKNNRH---

Figure 9